

PONY

سلسلة كتب الأستاذ

ICT



October Revision

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Lesson 1

» Computer Networks:

They are groups of computer devices that are connected to each other to communicate and share information.

» Network devices:

① Modem:

- It connects the Internet in your home.

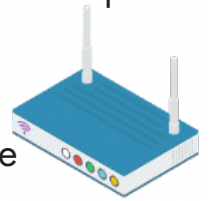


② Switches:

- They send data to a **specific device** over a network, which helps make connections **easier** and **faster (intelligent devices)**.

③ Router:

- ① It is a device that provides the Internet throughout the home.
- ② It sends data between home devices.
- ③ It connects devices using wires or wirelessly, using Wi-Fi.



④ Cables and Ports:

- Some devices connect to the Internet through wires (**Ethernet cables**).
- These wires are plugged into holes, called **ports**.

⑤ Local Area Network (LAN):

- A LAN, which connects devices via **cables**, is a type of **wired network**.
- **Example:** A school computer lab

» Types of Networks:

- ① **Wired networks:** They use **physical wiring cables** that plug into **ports**.
- ② **Wireless networks:** They connect devices **without wiring** through a wireless or Wi-Fi.



» Artificial Intelligence (AI):

It is a comprehensive term for computer applications that perform complex tasks simulating the thinking and performance of the human element, such as the ability to learn and reason.

» Applications of AI:

- ❶ The ability to learn and deduce.
- ❷ Write an article on a topic.
- ❸ Imitate sounds.
- ❹ Create videos.
- ❺ Predict the faults that may occur in networks.

Lesson 2

» **Augmented Reality (AR)** combines the real world with a virtual world by displaying 3D models that look like the real world.

- **Example of AR:** Phone games that place cartoon characters in the real places around you.

» **Virtual Reality (VR)**: It is a virtual 3D environment that allows users to explore and interact with the surroundings as if it were reality.

» To experience VR, users often wear a VR headset that blocks out the real world and provides immersive views



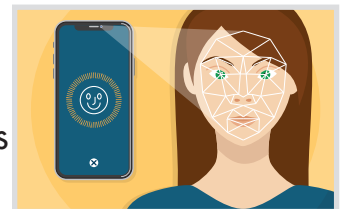
» Applications of VR:

- ❶ You can visit far museums virtually.
- ❷ You can play video games that make you feel like flying a plane or traveling in space.

» **Artificial Intelligence (AI)**: It is the ability of the computer to think, learn, and deduce.

» Examples of AI:

- ❶ It predicts the word you will write from the words you have written previously.
- ❷ AI is used to unlock your phone with facial recognition.
- ❸ Robots that can manufacture products in factories.



Lesson 3

» Goals of **assistive technology** is to:

- ❶ Improve independence of individuals.
- ❷ Improve the lives of people of determination.

» **Examples:**

- ❶ Smartphones enlarge text or use voice commands for people with poor vision or hand difficulty.
- ❷ Laptops with a **Braille terminal** help blind people read and write.

» **User Experience:** It describes how people use and interact with a product, and how to evaluate their experiences. It may be positive or negative.

» **Factors to evaluate a user experience, it can be:**

- | | |
|---------------------------|--------------|
| ❶ Useful and easy to use. | ❷ Desirable. |
| ❸ Accessible. | ❹ Developed. |

Lesson 4

❶ **The Egyptian Knowledge Bank (EKB):**

- It's a very large public database.

❷ **Internet Search:**

- Such as Google search.
- Be careful; it may give unreliable information.

❸ **Searching Within a Database:**

- You can use keywords in your search.

❹ **The Alexandria Library Catalog:**

- It helps you find books and resources available in the Library of Alexandria.

» **Library Catalog:** It is a database that includes all the items owned by a library.



Database

It contains a lot of information, like a very organized library, where each place of information has a specific place that makes it easy to access.

- قاعدة البيانات: تحتوي على الكثير من المعلومات، مثل مكتبة كبيرة ومنظمة؛ حيث يكون لكل معلومة مكان محدد يجعل الوصول إليها سهلاً.

Command	Shortcut	Function
Copy	Ctrl + C	• It's used to make a copy of the selected item. • Select item → Press Ctrl + C
Cut	Ctrl + X	• It's used to move the selected item from its original place. • Select item → Press Ctrl + X
Paste	Ctrl + V	• It's used to place the copied or cut item in a new place. • After copying or cutting → Press Ctrl + V

Lesson 5

» **Operating System (OS):** It is the software that manages a computer's functions, hardware, and software.

 Microsoft Windows	macOS  MacOS
• It's one of the most popular worldwide. • It uses closed-source software.	• It runs on Apple computers, such as MacBook and iMac.

» **Mobile Operating Systems:**

The **most popular** mobile OSs are **Android** and **Apple iOS**.

Android	Apple iOS
It's the most popular operating system for mobile devices, used by many phone companies.	• It runs on iPhone and iPad. • It is very safe and uses closed-source software.



- » **Open-source Software:** It means a person can change and read the programming code.
- » **Closed-source Software:** No one can see its code or modify it, except the owner.
- » **Advanced Operating Systems:**
 - 1 The Robot Operating System (ROS)
 - 2 Self-driving Cars Operating Systems



1 Choose the correct answer:

- 1 A is a group of computer devices connected to share information.
a. device b. networks c. router d. software
- 2 networks connect devices using Wi-Fi.
a. Wired b. Wireless c. Cable d. Both a and b
- 3 The modem converts the signals from the into a digital signal.
a. device b. LAN c. ISP d. Wi-Fi
- 4 A school computer lab connected with cables is an example of a
a. service provider b. Wi-Fi c. global network d. LAN
- 5 A sends data to a specific device over a network.
a. modem b. switch c. router d. cable
- 6 Artificial Intelligence (AI) is a comprehensive term for applications that
a. play music b. type letters
c. simulate human thinking d. clean computers
- 7 The abbreviation of Artificial Intelligence is
a. AR b. ALT c. IA d. AI
- 8 The router connects devices through
a. Wi-Fi b. cables c. both a and b d. ports
- 9 is a virtual 3D environment that allows users to explore and interact with surroundings.
a. Virtual Reality b. Augmented Reality c. AI d. LAN
- 10 combines the real world with a virtual world by displaying 3D models.
a. Virtual Reality b. Augmented Reality
c. Assistive Technology d. Database
- 11 AI can
a. write an article b. create videos
c. predict faults d. all of them

- 12 To experience VR, users often wear
 a. smart gloves b. AR glasses c. VR headsets d. caps
- 13 helps people with disabilities.
 a. Future technology b. Assistive technology
 c. virtual technology d. AI
- 14 Smartphones help people with low vision by
 a. changing color b. hiding icons
 c. playing music d. enlarging text
- 15 A computer with a Braille terminal helps people.
 a. deaf b. blind c. old d. programmers
- 16 describes how people use and interact with technological devices.
 a. HTML b. Evaluation c. User Experience d. Interface
- 17 The Egyptian Knowledge Bank (EKB) is a
 a. website b. search engine
 c. library d. database
- 18 A library catalog is a type of
 a. search engine b. database c. Wi-Fi d. file
- 19 Internet search engines like Google may provide information.
 a. useful b. unreliable c. always true d. both a and b
- 20 To move selected text, use the command
 a. Cut b. Copy c. Paste d. Delete
- 21 To copy selected text, use the shortcut
 a. Ctrl + C b. Ctrl + X c. Ctrl + V d. Ctrl + A
- 22 To paste a copied text, use the shortcut
 a. Ctrl + X b. Ctrl + V c. Ctrl + C d. Ctrl + P
- 23 Searching with helps you find information quickly in a database.
 a. long phrases b. keywords c. links d. photos
- 24 When you request a video on YouTube, the request will go first to
 a. router b. modem c. switch d. ISP

- 25 Copy, Cut, and Paste are commonly used commands.
 - a. drawing
 - b. music
 - c. word processing
 - d. gaming
- 26 is an operating system for Apple computers.
 - a. Windows
 - b. macOS
 - c. iOS
 - d. ROS
- 27 is a mobile operating system.
 - a. ROS
 - b. iOS
 - c. Linux
 - d. macOS
- 28 The programs that allow people to change and read the programming code are programs.
 - a. closed-source
 - b. open-source
 - c. purchase-required
 - d. difficult-to-use
- 29 is open-source software used for building robot applications.
 - a. Windows
 - b. Apple iOS
 - c. ROS
 - d. HTML
- 30 The is the software that manages a computer's functions, such as memory, drives, and printers.
 - a. programming language
 - b. operating system
 - c. input unit
 - d. email

2 Put (✓) or (X):

- 1 A switch connects your computer directly to the Internet. ()
- 2 Wired networks connect devices using cables. ()
- 3 A router provides Internet to home devices. ()
- 4 A switch sends data randomly to all devices. ()
- 5 Artificial Intelligence can imitate human voices. ()
- 6 The Internet Service Provider (ISP) is a company that provides access to the Internet. ()
- 7 Virtual Reality (VR) shows 2D images only. ()
- 8 To experience VR, users wear VR headsets. ()
- 9 Augmented Reality (AR) adds virtual objects to the real world. ()
- 10 AI learns by analyzing information provided to it. ()



- 11 Assistive technology helps only programmers. ()
- 12 User experience explains how people use and interact with technology. ()
- 13 A home robot is desirable because it saves time and effort. ()
- 14 Braille terminals help deaf people to hear better. ()
- 15 The Egyptian Knowledge Bank (EKB) is an example of a public database. ()
- 16 A library catalog lists all items owned by a library. ()
- 17 Internet search results are always reliable. ()
- 18 The shortcut Ctrl + C is used to duplicate text. ()
- 19 Ctrl + V removes the text from its original place. ()
- 20 Databases are organized collections of information. ()
- 21 Keywords are used when searching within a database. ()
- 22 Google search is an example of a database. ()
- 23 The EKB provides access to useful educational information. ()
- 24 Using reliable digital tools helps improve research accuracy. ()
- 25 Anyone can read and modify the code in closed-source software. ()
- 26 The most popular computers OSs are Android and Apple iOS. ()
- 27 Windows is open-source software that can be edited by anyone. ()
- 28 Operating systems manage software only. ()
- 29 Android is an open-source operating system. ()
- 30 Apple computers run on the Windows operating system. ()



Answers

1

1 b

2 b

3 c

4 d

5 b

6 c

7 d

8 c

9 a

10 b

11 d

12 c

13 b

14 d

15 b

16 c

17 d

18 b

19 d

20 a

21 a

22 b

23 b

24 a

25 c

26 b

27 b

28 b

29 c

30 b

2

1 X

2 ✓

3 ✓

4 X

5 ✓

6 ✓

7 X

8 ✓

9 ✓

10 ✓

11 X

12 ✓

13 ✓

14 X

15 ✓

16 ✓

17 X

18 ✓

19 X

20 ✓

21 ✓

22 X

23 ✓

24 ✓

25 X

26 X

27 X

28 X

29 ✓

30 X

